Using Venn Diagram To Analyze Student's Cognitive Level Based On Bloom's Taxonomy On The Development Independent Lab Work Module Development About Light Refraction

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ABSTRACT

Evaluation shows the effectiveness of teaching and learning of a class. Mostly teachers provide evaluation in low cognitive level so students can achieve minimum passing grade. Whereas a good evaluation should have used Bloom's Taxonomy as a basis for classifying student's cognitive level. It leads teacher to provide a learning that facilitates student's achievement of high cognitive level, such as using independent practicum module. Teachers also typically provide a globally report evaluation, i.e. the final score only, without presenting the distribution of students' cognitive level. For this purpose, Venn Diagram is used to show the distribution of student's cognitive level based on Bloom's Taxonomy. This research aims to expose the distribution of student's Bloom cognitive level using Venn Diagram and to investigate whether the independent lab work module development of light refraction using PhET simulation "Bending Light" can make students achieve the cognitive levels of knowing, understanding, applying, and analyzing. The obtained data was analyzed using qualitative descriptive method. The respondents were 17 freshmen of physics education and physics students of SWCU batch 2016. The post-test showed that all students achieved higher cognitive levels. Thus the developed independent lab work module was able to boost student's cognitive level. Venn Diagram can also simplify the reading and analysis of presenting distribution of student's Bloom cognitive level for teachers.

Keywords : Bloom's cognitive level, Venn Diagram